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Appendix A: Specific Deficiencies Listings

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I. Executive Summary

Overview:

The Chuathbaluk Clinic, built in 1986, is a 716 SF clinic constructed as part of a larger multipurpose building containing a washeteria and offices on the second floor. It is of somewhat typical design for the time it was constructed. It was originally built as a 30 x 48 building, with an addition of side vestibules, and storage unit. It has a poor entry with minimal vestibule and includes under stair storage area. The clinic has waiting area with doubles as TDY and some storage, no trauma room, two small exam rooms, one small office/medical files storage, one toilet room, storage closet, and a joint mechanical room. The simple wood frame construction on a pony wall and post and pad foundation system over a gravel pad is similar to many clinics constructed in the YKHC region over the last 20-30 years. It has been modified due to heating problems with all exposed internal piping, and is small for the current size of the village, 119 residents.

Renovation/Upgrade and Addition:

The Clinic will require a 1284 SF addition to accommodate the current need and Alaska Rural Primary Care Facility space guidelines. This addition is not possible on the existing site without major excavation of moving of existing buildings. The addition would require considerable additional pad filling and substantial renovation of the existing clinic. As can be seen from the documentation enclosed, the existing clinic will require major renovation to meet current code and standards as well. The cost of renovation and addition will far exceed the cost of a new clinic facility.

New Clinic:

The community has proposed that a new larger 2000 SF Denali Commission Medium Clinic can be constructed on an adjacent site. We have included preliminary site plans for the site chosen

The site has existing well and septic utilities available and can be served easily. The City Manager of Chuathbaluk, Hanna Alexie-Bennis, and Tribal Administrator, Helen Pitka are in process of final determination of the final site selection and should have this complete in the next couple months.

The community has completely supported this effort and have met extensively to assist in new site issues and to resolve any site considerations of the three options presented.

II. General Information

A. The Purpose of the Report and Assessment Process:

ANTHC has entered into a cooperative agreement with the Denali Commission to provide management of the small clinic program under the Alaska Rural Primary Care Facility assessment, planning, design and construction. Over 200 clinics will be inspected through the course of the program. The purpose of the Code and Condition survey report is to validate the data provided by the community in the Alaska Rural Primary Care Facility Needs Assessment and to provide each community with a uniform standard of evaluation for comparison with other communities to determine the relative need between the communities of Alaska for funding assistance for the construction of new or remodeled clinic facilities. The information provided in this report is one component of the scoring for the small clinic RFP that the Denali Commission sent to communities in priority Groups 3 and 4. The information gathered will be tabulated and analyzed according to a set of fixed criteria that should yield a priority list for funding. Additionally, the relative costs of new construction vs. remodel/addition will be evaluated to determine the most efficient means to bring the clinics up to a uniform standard of program and construction quality.

A team of professional Architects and Engineers traveled to the site and completed a detailed Field Report that was reviewed by all parties. Subsequently, the team completed a draft and then final report of the facility condition.

B. Assessment Team:

Tom Humphrey, Capital Projects Director, and Emilee Kutch, the administrator for Yukon Kuskokwim Health Corporation, organized the assessment team. The team for this site visit was Tom Humphrey, YKHC; Gerald L. (Jerry) Winchester, Architect, Winchester Alaska, Inc.; Bob Jernstrom, PE, Jernstrom Engineering, and John Nichols, ANTHC. Team members who assisted in preparation of report from information gathered included members of the field team above and Ben Oien PE, Structural Engineer; Tom Humphrey, PE, Electrical Engineer; Carl Bassler PE, Civil Engineer; and Estimation Inc.

C. Report Format:

The format adopted is a modified "Deep Look" format, a facilities investigation and condition report used by both ANTHC and the Public Health Service, in maintaining an ongoing database of facilities throughout the country. Facilities are evaluated with respect to the requirements of the governing building codes and design guidelines. Building code compliance, general facility condition, and program needs have been evaluated. The written report includes a floor plan of the clinic, site plan as available, and new plans for renovation/upgrade or completely new clinics. Additional information was gathered during the field visit which includes a detailed Field Report and building condition checklist, sketches of building construction details, investigations of potential sites for new or replacement clinics, and proposed plans for village utility upgrades. This information is available for viewing at ANTHC's Anchorage offices and will be held for reference.

D. The Site Investigation:

On November 1, 2001, the team flew to the site and made observations, took photos, and discussed the needs with on-site personnel for the facility. Approximately three-four hours was spent on site, with sufficient time to investigate foundations, structure, condition, mechanical and electrical systems, and to interview the staff to assess current and projected health care needs.

Interviews were conducted with the City Manager, Hanna Alexie-Bennis; Tribal Administrator, Helen Pitka, and other Health Aides. The city and tribal staff provided information on the existing building, site, and

utilities. Additional review of existing data from YKHC files from physician's assistants, community health aides, travel clerks, dentists, specialty clinic providers, and medivac teams. These interviews provided clear understanding of the needs of the village, the clinic facility, and the users of the facility.

The Chuathbaluk Tribal Administrator and City Manager have reviewed the use of a Denali Commission Medium Health Clinic design adapted to the Chuathbaluk Site. They have agreed to proceed with final approvals of a site based on final determination of the most appropriate one.

III. Clinic Inspection Summary

A. Community Information:

Population: 119 (2000 Census)

2nd Class City, Unorganized Borough, Kuspuk School District, Calista Native Corporation

Location:

Chuathbaluk is located on the north bank of the Kuskokwim River, 11 miles upriver from Aniak in the Kilbuk-Kuskokwim mountains. It is 87 air miles northeast of Bethel and 310 miles west of Anchorage. It lies at approximately 61d 34m N Latitude, 159d 13m W Longitude. (Sec. 10, T017N, R055W, Seward Meridian.) Chuathbaluk is located in the Kuskokwim Recording District. The area encompasses 3.5 sq. miles of land and 1.8 sq. miles of water. A continental climate prevails in Chuathbaluk. Snowfall averages 85 inches per year, with a total precipitation of 17 inches per year. Temperatures range from -55 to 87. Heavy winds can cause flight delays in the fall. The Kuskokwim River is ice-free from mid-June through October.

History:

Chuathbaluk was the site of an Ingalik Indian summer fish camp in the mid-1800s. The village has been known as Chukbak, St. Sergius Mission, Kuskokwim Russian Mission, and Little Russian Mission. The village was often confused with Russian Mission on the Yukon, so in the 1960s the name was changed to Chuathbaluk, which is derived from the Yup'ik word "Curapalek," meaning "the hills where the big blueberries grow." The Russian Orthodox church built the St. Sergius Mission by 1894, and residents of Kukuktuk from 20 miles downriver moved to the mission. Tragically, much of the village was lost in an influenza epidemic in 1900. By 1929, the site was deserted, although Russian Orthodox members continued to hold services at the mission. In 1954, the Sam Phillips family from Crow Village resettled the mission, and were joined later by individuals from Aniak and Crooked Creek. The Church was rebuilt in the late 1950s, and a state

Culture:

Chuathbaluk is primarily an Eskimo village, with some Athabascans. Subsistence is a crucial source of food, since employment opportunities are seasonal.

Economy:

Chuathbaluk's economy is heavily dependent on subsistence activities. Employment is primarily through seasonal summer work firefighting for BLM, working at the local sawmill, Nelson & Sons, or commercial fishing. Two residents hold commercial fishing permits. The school, City and clinic provide some year-round employment. Local artisans produce fur garments, beadwork, Mukluks, kuspuks and ulus. Salmon, moose, black bear, porcupine and waterfowl are harvested.

Facilities:

Water is pumped from a 105-foot well into a storage tank, then treated and hauled from this point by residents. A washeteria is available. The school has its own watering point, and some homes have individual wells. 80% of homes do not have complete plumbing. Honeybuckets and privies are used by most residents for waste disposal; a few homes have septic tanks. The school and

clinic have a septic tank/leachfield system, as do several homes. The septic systems are failing due to clay and silt. A water and sewer Master Plan has been funded to examine needed repairs to the pump house, water treatment, washeteria, school sewage lagoon and other components. Refuse is collected weekly. The Middle Kuskokwim Electric Co-op provides power from Chuathbaluk to Chuathbaluk.

Transportation:

The Kuskokwim River serves as the major carrier for supply barges from Aniak and Bethel, skiffs and float planes. A 1,560' State-owned gravel airstrip is located one mile north of the village, with scheduled air service. In the winter, skiplanes land on the frozen river and vehicles are sometimes driven on the ice road to neighboring communities.

Climate:

A continental climate prevails in Chuathbaluk. Snowfall averages 85 inches per year, with a total precipitation of 17 inches per year. Temperatures range from -55 to 87. Heavy winds can cause flight delays in the fall. The Kuskokwim River is ice-free from mid-June through October.

B. General Clinic Information:

Physical Plant Information:

The existing Chuathbaluk Health Clinic completed in 1986 occupies 716 sq. ft. of a two story multipurpose building housing the Washeteria and offices on the second floor. (See attached Plan) It is one of the small to medium size clinics constructed during the last twenty years and existing in the YKHC program area. It has a waiting room, toilet room, two exam rooms, office work/storage area, a small supply closet, and a shared mechanical room. It has a front entry with unheated vestibule and does not allow stretcher access. There is no rear entry. The clinic is served with water and sewer from existing water and wastewater systems for the building and washeteria. Sinks are provided in the two exam rooms and toilet room.

Clinic program usage information:

Patient records indicate that the clinic saw an average of 330 patients per month in 2000 up from 42 in 1998-99 and 22 patients per month in 1997. This is over a 100% increase on an annual basis. There are 2 full or part time staff and 1 Itinerant or contract staff equivalent. The office space provided is entirely inadequate as it has all office functions, travel, files, and use by all health aides. The room contains a desk, copier, fax, and two chairs for triage and other equipment and supplies.

Community Program Sheet:

The community program sheet P1.0 Services has been included if available on the next page. These sheets were completed during the Code and Condition Survey by ANTHC representative.

C. Program Deficiency Narrative:

1. Space Requirements and Deficiencies:

Space Comparison Matrix - Current Chuathbaluk Actual SF to Denali Commission Medium Clinic
Alaska Rural Primary Care Facility

Purpose / Activity	Current Clinic			Medium clinic			Difference		
	Actual Net SF			ARPCF SF					
	No.	Net Area	Size	No.	Net Area	Size	No.	Net Area	

			(SF)			(SF)		(SF)
Arctic Entries	16	1	16	50	2	100		84
Waiting/Recep/Closet	259	1	259	150	1	150		-109
Trauma/Telemed/Exam			0	200	1	200		200
Office/Exam	97, 97	2	194	150	1	150		-44
Admin./Records	106	1	106	110	1	110		4
Pharmacy/Lab			0	80	1	80		80
Portable X-ray			0			0		0
Specialty Clinic/Health Ed/Conf			0	150	1	150		150
Patient Holding/ Sleeping Room			0	80	1	80		80
Storage	9	1	9	100	1	100		91
HC Toilet	36	1	36	60	2	120		84
Janitor's Closet			0	30	1	30		30
Subtotal Net Area			620			1270		650
Circulation & Net/Gross Conv. @ 45%			96			572		476
Subtotal (GSF)			716			1842		1126
Mechanical Space @ 8%						147		147
Total Heated Space			716			1989		1273
Morgue (unheated enclosed space)				30	1	30		30
Ext. Ramps, Stairs, Loading	As Required			As Required			As Required	

- a. Overall space deficiencies: The size of the facility is about 1284 sf short of the ARPCF space requirements.
- b. Specific room deficiencies: There is minimal vestibule, waiting space, minimal office and storage space, small exam rooms, no bath facilities, and no TDY. This in combination with other small spaces leaves the clinic very program deficient.
- c. Other size issues: Mechanical room is very small, and there are no unheated or exterior storage areas, and circulation is through rooms such as trauma to get to second exit.

2. Building Issues:

- a. Arctic Entries - The main entry is not accessible for ADA and is impossible to get a gurney into the room. It does not have a legal ramp and has storage of needed materials that cannot be stored inside the facility due to lack of room. There is no rear entry.
- b. Waiting / Reception –The waiting area contains a couch for secondary patient use and has equipment and other items stored in the room.
- c. Trauma/Telemed/Exam – There is no trauma room and none of the exam meet all aspects or requirements. There are two total rooms that are used for exam or some combination.
- d. Office / Exam – There are two exam rooms, which are crowded with equipment. There was no capability of putting a patient in a gurney in the exam rooms.
- e. Administration / Records – There is one office room space used for all administrative, records, scheduling, and other functions. It is very small.

- f. Pharmacy / Lab – There is no Pharmacy and medicines are stored in locked cabinets in the medical supply room.
- g. Specialty Clinic / Health Education / Conference - This function is completed in the exam rooms. There is no special area.
- h. Patient Holding / Sleeping Room – There is no sleeping room and a rollaway bed is provided for itinerant staff. The exiting does not meet code with window egress.
- i. Storage – Storage is inadequate and is an impediment to safety and the operation of this clinic. There is a lack of adequate storage for needed medical supplies, files, and equipment in this facility. There is minimal storage and mostly it is in the exam rooms. There is storage in rear entry, janitors, and mechanical rooms.
- j. HC Toilet Facilities – A single toilet room serves patients and clinic staff. Toilet room did not meet all of the ADA or UPC requirements. Entry door width was too narrow, and the toilet and sink lacked sufficient clearances and were of incorrect fixture type.
- k. Mechanical/Boiler room – The room is a small room for the furnace and systems. The access is via outdoor vestibule and the room is not separated from the rest of the facility. The furnace is in very poor shape and all of the heating system is in poor condition. There is not the required clearance to combustibles (entry door swing) or space as required by code
- l. Ancillary Rooms – There are no ancillary rooms as all space is used to maximum capacity including storage rooms, exam rooms, toilet rooms, office, waiting room, corridors, and vestibules.

3. Functional Design Issues

This facility is functionally inadequate for its intended use. The spaces do not meet the functional size requirement, access is non-compliant, and the ability to perform required medical functions within the facility is severely hampered by lack of storage.

4. Health Program Issues

- a. Vestibule and comfort:
The front door of the clinic is through a non-compliant, unheated, vestibule, which is inadequate to defer the heat loss. There is no ADA access or proper gurney access. The exam rooms are cold every time the door is opened and the cold air migrates into the clinic where patients are being attended.
- b. Medical/Infectious Waste
This is being handled in a very basic method and is hampered by the small non-functional facility.

- c. Infection Control
This is being completed with minimal long-term control due to lack of facilities. Floor materials are very worn out and replaced with multiple materials and sizes allowing for control problems. There are no rubber base materials, and wall and ceiling materials are also considerably lacking in cleaning ability. The exposed piping also provides very unsanitary conditions and impossible cleaning of the exam rooms.
- d. Insect and Rodent Control
None noted or investigated
- e. Housekeeping
The difficulty in cleaning and housekeeping in such a congested facility is understandable and is being done at the best level currently possible.

5. Utilities

- a. Water Supply
The water is provided by the existing well system.
- b. Sewage Disposal
Sewer system is provided by the washeteria and building septic system.
- c. Electricity
See Electrical Narrative.
- d. Telephone
A single phone line services the clinic and is inadequate for current needs.
- e. Fuel Oil
The fuel system is not adequate with some leaking having occurred around the existing above ground tank. There is not protection or containment for possible spilling.

D. Architectural / Structural Condition

1. Building Construction:

- a. Floor Construction:
The floor is 2 x 10 joist over 4 x 10 beams with treated post and pad foundation and pony wall foundation system with 3 x 12 treated pad for foundation system. There is some settlement and heaving which has caused doors to stick and floor to be uneven. There is approximately 3 inches of differential in the floor elevations. There is batt insulation of the 2x10 joist space with 3/8" plywood soffit.
- b. Exterior Wall Construction:

The walls are 2x6 construction at 24" oc with R-19 insulation. The sheathing is T-111 plywood siding painted and fiberglass batt insulation with vapor barrier and paneling plywood on the interior.

c. Roof Construction:

The roof is a full-span truss at 24" oc with plywood deck and metal roof. The insulation is R-38 batt insulation that is minimal in this climate and required upgrading to R-60. There is minimal ventilation of roof system due to second floor offices.

d. Exterior Doors:

The exterior doors are residential insulated metal but very deteriorated. They are in very poor shape and need replacement.

e. Exterior Windows:

Windows are of thermo-pane wood casement windows; require thorough rework and repainting for upgrade to useful life.

f. Exterior Decks, Stairs, and Ramps

There are minimal Arctic entries. The landing at the exterior door is deteriorating, and the stairs rise and run do not meet code. The ramp is steep and does not meet ADA and the handrails and landings do not meet code. Facility requires all new stairs, ramps, railings and landings.

2. Interior Construction:

a. Flooring:

The flooring is sheet vinyl over plywood. It has been replaced in many areas and is work out and covered with duct-tape in other areas. Entire replacement of sub-floor and finish is required to meet sanitary requirements.

b. Walls:

The walls are of 2x4 wood construction, with no sound insulation. The type of wall construction does not provide for patient privacy in any way. The finish is wood paneling and in serious need of repair and repaint. There are many cracks due to settlement and shifting building.

c. Ceilings:

The ceilings are gypsum wallboard and acoustic tile and needing repair and repaint due to cracking as well.

d. Interior doors:

The interior walls are of hollow core wood construction that provides minimal construction durability and they are all in need of repair. Additionally, these doors are not acceptable for patient privacy and sound control. There has been floor shifting and most of the doors do not close properly.

e. Casework:

The upper casework is minimal and the lower casework is of very poor construction. Plastic laminate tops that do not fit to walls and are damaged. The sanitary issues are very significant with the counters being of such poor construction. Need full replacement.

f. Furnishings:

The furnishings are very old and worn. There is an old couch in the waiting room and a variety of mismatched and old desks, chairs, and tables for other use. The exam tables are older as well.

g. Insulation:

Floor Insulation		R-16 to R-19
Wall Insulation	R-19	
Attic/Roof Insulation		R-38
Attic Ventilation		minimal to NONE

h. Tightness of Construction:

The building is of poor overall construction, with numerous leaks in construction system at doors, floor, roof, and sills.

i. Arctic Design:

The vestibules are minimal, orientation is OK, and siting of the clinic is adequate.

3. Structural

a. Foundations

The foundation is post and pad and pony wall over a gravel pad and is in poor structural condition. Pads have settled, walls are racked, and the building has floor level deviation and has substantial cracking on the interior. There not adequate hold down strapping and the bracing is loose or missing. In general the foundation needs substantial upgrade to new useful life or replacement.

b. Walls and Roof:

The walls and roof seem in relatively stable and adequate condition.

c. Stairs, Landings, and Ramps

These elements are in poor condition and need of replacement with signs of rotting and deterioration of structural elements.

E. Mechanical Condition

1. Heating System

a. Fuel Storage and Distribution

The clinic's heating fuel oil storage tank is located adjacent to the building and not a minimum of 5 ft. as required by code. The 300-gallon storage tank does not have the proper venting or valving as required by code.

The clinic's "Toyostove" heating fuel oil storage tank is located adjacent to the building and not a minimum of 5 ft. as required by code. The 55-gallon storage barrel does not meet UL tank standards nor does it have the proper venting, piping, or valving as required by code.

b. Furnace

A single residential grade, oil-fired furnace provides heating for the entire clinic. The furnace is in fair condition to meet the heating needs of the Health Clinic. There is severe corrosion on the furnace stack and the vent assembly is in poor condition. There is no combustion air openings for the furnace which is against code.

A large number of boxes, parts, equipment, etc. are stored in the furnace room making access for inspections, maintenance, and repair difficult.

c. Oil-Fired Heaters

A residential grade, oil-fired, "Toyostove" provides backup heating for the entire clinic. The heater is in good condition and does provide the required backup heating needs of the Health Clinic. The exhaust and combustion air opening for the heater is provided in the intake and exhaust kit mounted on the outside wall.

d. Heat Distribution System

The furnace supply air duct distribution system is routed through the second floor joist space. The return air makes its way back to the furnace through a return air duct in the crawlspace. The supply air diffusers and return grille are located in the floor.

2. Ventilation System

a. System

There is no mechanical ventilation system. Ventilation is by operable windows. The windows do not open easily and as such do not provide effective ventilation. The office does not have an operable window and as such has no ventilation.

b. Exhaust Air

A ceiling mounted exhaust fan services the toilet room. This fan is in a state of disrepair and is not ducted outside, but is ducted into the attic space. The janitor's room is not provided with an exhaust fan.

3. Plumbing System

a. Water System

The water system plumbing is typical 1/2" and 3/4" copper distribution piping to the clinic exam sinks and toilet fixtures. A well provides the water needs of the clinic.

b. Sewer System

City sanitary sewer provides the needs of the clinic.

c. Fixtures

The toilet room plumbing fixtures are not ADA approved or UPC code compliant for barrier free access. The janitor's sink is not provided in the janitor's closet.

d. Water Heater

The oil-fired water heater is installed on a combustible floor and the unit is only rated for installation on a non-combustible floor. The water heater has not been provide with an operational barometric damper nor is the relief valve piped to the floor. The water heater stack has a tee connection that is not sealed and is open to the furnace room.

F. Electrical Condition

1. Electrical Service
 - a. Chuathbaluk shares a community building with the Village Corporation (upstairs) and the washeteria (adjacent). We could not get at the service equipment because it was enclosed in a wood box. Electrical service is overhead 120/240V 1 phase 3 Wire. Power is provided by Middle Kuskokwim Electric Cooperative. Meter SN 71819393 CL200.
 - b. There are two panels A & B. Panel A is located in the Clinic. 100A main, 240V 3W 30 circuits Sq. D. QO Type.
 - c. Panel B is located in the Washeteria. It is also a 100A main, 240V 3W 30 circuit Sq. D. QO Type.
2. Power Distribution
 - a. Assuming there is one meter. It must feed both panels. Feeders are both 3#2 Al USE w/ Gnd.
 - b. The entire building is wired with NM cable (Romex).
3. Grounding System

Grounding of Electrical Systems.

 - a. Because of the locked box it was impossible to determine the extent of the grounding system. Presumably there is one ground rod.
4. Exterior Elements
 - a. Incandescent floodlights provide exterior lighting. Do not have photocell or time clock controls.
 - b. An exterior power receptacle is installed near the door. NEC 210-52(e).
5. Wiring devices
 - a. Non-metallic sheathed cable is used for the branch circuit wiring. Patient care areas need to be wired in metal raceways. NEC 110-12(a).
 - b. Receptacles are residential grounding type, not hospital grade. NEC 517-18(b)
 - c. Interior device plates are non-metallic ivory decorator plates.
 - d. There are an inadequate number of receptacles. NEC 210-52(a) 210-60.
6. Lighting
 - a. Foot-candle measurements were taken and lighting levels are generally adequate. The exam rooms ranged 60-100FC. Several lights have discoloration.
 - b. The lighting is predominately 1x4 fluorescent T12 (2) lamp surface wrap troffers. These fixtures should be upgraded to T8 with electronic ballasts for energy efficiency.
7. Emergency System

- a. There was one emergency exit signs at the only exit. Requirement: Means of Egress Identification "Exit Signs" Connected to emergency electrical system providing 1-1/2 hours of continuous illumination. (UBC 1003.2.8)
 - b. Egress Lighting. There are several battery powered emergency lights in the exam rooms, office, and common area. Only about ½ of them worked correctly. Requirement: Means of Egress Illumination. To an intensity of not less then 1FC. (UBC 1003.2.9)
8. Fire Alarm System
 - a. The building has a homemade manual fire alarm system. The relay panel for it is located in the washeteria. A non-UL panel is not acceptable. This system should be replaced with a new one.
 - b. The building has no battery-backed smoke detectors. Minimum protection should be provided by independent battery operated smoke detectors in each room. Smoke detectors should be interconnected and attached to building power. There should be audio/visual annunciators. ADA 4.28 and UBC 1105.4.5 Units and sleeping areas require visual alarm. (ADA 4.28.4) People do spend the night in this clinic. Restrooms, general usage areas, hallways, lobbies require audible and visual alarms (ADA 4.28) Also UBC 1105.4.5)
9. Telecommunication
 - a. Telephone service is provided by United Utilities / AT&T.
 - b. There is no telephone switch. There are outlets only in the office.
 - c. The building is not wired for computer local area network LAN Cat 5. (EIA/TIA)
10. Energy Management
 - a. Several areas have inefficient incandescent lighting. Many areas could use occupancy sensors for energy management. Exterior lighting could use photocell control.

G. Civil / Utility Condition

1. Location of building
 - a. Patient Access
Located in the relative center of the village for ease of access and seems to work fine. It is on the road to the airport which is an advantage.
 - b. Service Access
Road access is provided to front and rear entry. Ramp and stairs to front entry do not meet code access requirements. Ramps are excessively steep providing a slipping hazard in winter months.
 - c. Other Considerations:

The facility is located in a city complex of buildings. The property lines are also very close to the building and not to code requirements. This requires some moving of buildings and filling of site in the long term for any expansion of the facility.

2. Site Issues

a. Drainage

Drainage from the site is adequate. There is a significant pad on which the building is constructed. Correction would include putting a new extended pad on the site prior to placing the post and pad system.

b. Snow

There does not appear to be a snow-drifting problem as the facility sits in the open.

3. Proximity of adjacent buildings

There are adjacent buildings that are too close for code and would require 1 hr. exterior walls on both buildings to meet code. There is not adequate space for any expansion on the current site.

4. Utilities

a. Water Supply

The well water supply provides adequate water for the facility.

b. Sewage Disposal

Sewage disposal is provided by washeteria and building system.

c. Electricity

Power from Village system via overhead wire. See Photos

d. Telephone

Overhead phone with only one phone connection, requiring fax and phone on same line.

H. Existing Facility Floor Plan (Site Plans, New Clinic Plans, Regional Map):

We have attached drawings, as we have been able to identify, find, or create as part of this report. We have endeavored to provide all drawings for all the sites; however, in some cases exact existing site plans were not available. We have provided as indicated below:

A1.1 Existing Site Plan is attached if available

A1.2 Existing Facility Floor Plan is attached following.

A1.3 The Existing typical wall section is attached following as required by the report guidelines.

A2.1 The Addition to the Existing Facility as required to meet ARPCF Space Guidelines is attached following.

- A3.1 The New Clinic Site plan is attached as proposed based on the community input.
- A3.2 The New Denali Commission Clinic Floor Plan meeting the ARPCF Space Guidelines and proposed for this location is attached.

IV. Deficiency Evaluation

A. Deficiency Codes:

The deficiencies are categorized according to the following deficiency codes to allow the work to be prioritized for funding. The codes are as follows:

01 Patient Care: Based on assessment of the facilities ability to support the stated services that are required to be provided at the site. Items required for the patients social environment such as storage, privacy, sensitivity to age or developmental levels, clinical needs, public telephones and furnishings for patient privacy and comfort.

02 Fire and Life Safety: These deficiencies identify areas where the facility is not constructed or maintained in compliance with provisions of the state mandated life safety aspects of building codes including the Uniform Building Code, International Building Code, The Uniform Fire Code, NFPA 101, The Uniform Mechanical and Plumbing Codes and The National Electrical Code. Deficiencies could include inadequacies in fire barriers, smoke barriers, capacity and means of egress, door ratings, safe harbor, and fire protection equipment not covered in other deficiency codes.

03 General Safety: These deficiencies identify miscellaneous safety issues. These are items that are not necessarily code items but are conditions that are considered un-safe by common design and building practices. Corrective actions required from lack of established health care industry safety practices, and local governing body code safety requirements. I.e. Occupational Safety Health Administration (OSHA) codes & standards.

04 Environmental Quality: Deficiencies based on Federal, State and Local environmental laws and regulations and industry acceptable practices. For example this addresses DEC regulations, hazardous materials and general sanitation.

05 Program Deficiencies: These are deficiencies that show up as variations from space guidelines evaluated through industry practices and observation at the facility site and documented in the facility floor plans. These are items that are required for the delivery of medical services model currently accepted for rural Alaska. This may include space modification requirements, workflow pattern improvements, functional needs, modification or re-alignment of existing space or other items to meet the delivery of quality medical services. (Account for new space additions in DC 06 below)

06 Unmet Supportable Space Needs: These are items that are required to meet the program delivery of the clinic and may not be shown or delineated in the Alaska Primary Care Facility Space Guideline. Program modifications requiring

additional supportable space directly related to an expanded program, personnel or equipment shall be identified in this section; for example additional dental space, specialty clinic, storage, or program support space that requires additional space beyond the established program.

07 Disability Access Deficiencies: The items with this category listing are not in compliance with the Americans with Disabilities Act. This could include non-compliance with accessibility in parking, entrances, toilets, drinking fountains, elevators, telephones, fire alarm, egress and exit access ways, etc.

08 Energy Management: These deficiencies address the efficiency of lighting, heating systems/fuel types and the thermal enclosures of buildings, processes, and are required for energy conservation and good energy management.

09 Plant Management: This category is for items that are required for easy and cost efficient operational and facilities management and maintenance tasks of the physical plant.

10 Architectural M&R: Items affecting the architectural integrity of the facility, materials used, insulation, vapor retarder, attic and crawlspace ventilation, general condition of interiors, and prevention of deterioration of structure and systems.

11 Structural Deficiencies: These are deficiencies with the fabric of the building. It may include the foundations, the roof or wall structure, the materials used, the insulation and vapor retarders, the attic or crawl space ventilation and the general condition of interior finishes. Foundation systems are included in this category.

12 Mechanical Deficiencies: These are deficiencies in the plumbing, heating, ventilating, air conditioning, or medical air systems, interior mechanical utilities, requiring maintenance due to normal wear and tear that would result in system failure.

13 Electrical Deficiencies: These are deficiencies with normal or emergency power, electrical generating and distribution systems, interior electrical and communications utilities, fire alarm systems, power systems and communications systems within a building that should be repaired or replaced on a recurring basis due to normal wear and tear that would otherwise result in system failure.

14 Utilities M&R: This category is used for site utilities for incoming services to facilities that are required for the building to be fully operational. Deficiencies may include sewer and water lines, water wells, water tanks, natural gas and propane storage, electric power and telecommunications distribution, etc.

15 Grounds M&R: Real property grounds components that should be replaced on a recurring basis due to normal wear and tear. Deficiencies with respect to trees, sod, soil erosion, lawn sprinklers, parking, bridges, pedestrian crossings, fences, sidewalks & roadways, and site illumination etc. are considerations.

16 Painting M&R: Any painting project that is large enough to require outside contractors or coordination with other programs.

17 Roof M&R: Deficiencies in roofing, and related systems including openings and drainage.

18 Seismic Mitigation: Deficiencies in seismic structural items or other related issues to seismic design, including material improperly anchored to withstand current seismic requirements effect. The elements under consideration should include the cost incidental to the structural work like architectural and finishes demolition and repairs.

B. Photographs:

We have provided photographs attached which are noted to describe the various deficiencies described in the narratives and itemized in the summary below. The photos do not cover all deficiencies and are intended to provide a visual reference to persons viewing the report who are not familiar with the facility.

We have included additional photos as Appendix B for general reference. These are intended to add additional information to the specific deficiencies listed and to provide general background information.

C. Cost Estimate General Provisions

1. New Clinic Construction

- a. Base Cost: The Base Cost provided in Section VI of this report is the direct cost of construction, inclusive of general requirements (described below) and contingency for design unknowns (an estimating contingency). The base cost is exclusive of overhead and profit, mark-ups, area cost factors and contingencies. Material costs for the project are all calculated FOB Anchorage and labor rates are based on Davis Bacon wages, regionally adjusted to Anchorage. Transportation costs, freight, Per Diem and similar costs are included in the base costs. The Project Factors and Area Cost Factor are multipliers of the base costs.
 - General Requirements are based on Anchorage costs without area adjustment. It is included in the Base Cost for New Clinics. These costs are indirect construction cost not specifically identifiable to individual line items. It consists of supervision, materials control, submittals and coordination, etc. The general requirements factor has not been adjusted for Indian Preference.
 - The Design Unknowns Contingency is an estimator's contingency based on the schematic nature of the information provided, the lack of any real design, and the assumption that any project will encompass related work not specifically mentioned.
- b. Project Cost Factors
 - Equipment Costs for new medical equipment has been added at 17% of the cost of new floor space.
 - Design Services is included at 10% to cover professional services including engineering and design.
 - Construction Contingency is included at 10% of the Base Costs to cover changes encountered during construction.
 - Construction Administration has been included at 8% of the Base Costs. This is for monitoring and administration of the construction contract.
- c. Area Cost Factor: The Area Cost Factor used in the cost estimates for this facility is shown in Section VI of this report. The area cost factors are taken from a recent study completed for the Denali Commission for statewide healthcare facilities. The numbers are the result of a matrix of cost variables including such items as air travel, local hire costs, room and board, freight, fire protection equipment, foundation requirements, and heating equipment as well as contractor costs such as mobilization, demobilization, overhead, profit, bonds and insurance. These parameters were reconsidered for each village, following the site visit, and were modified, if necessary.
- d. Estimated Total Project Cost of New Building: This is the total estimated cost of the project, including design services. The construction contract will be work subject to Davis Bacon wages, and assumes construction before year-end 2002. No inflation factor has been applied to this data.

2. Remodel, Renovations, and Additions

- a. Base Cost: The Base Cost provided in the specific deficiency sheets is the direct cost of construction, exclusive of overhead and profit, mark-ups, area cost factors and contingencies. Material costs for the project are all calculated FOB Anchorage and labor rates are based on Davis

Bacon wages, regionally adjusted to Anchorage. Most of the deficiency items do not constitute projects of sufficient size to obtain efficiency of scale. The estimate assumes that the projects are completed either individually, or combined with other similar projects of like scope. The numbers include moderate allowances for difficulties encountered in working in occupied spaces and are based on remodeling rather than on new construction costs. Transportation costs, freight, Per Diem and similar costs are included in the base costs. The General Requirements, Design Contingency and Area Cost Factors are multipliers of the base costs.

- The cost of Additions to clinics is estimated at a unit cost higher than new clinics due to the complexities of tying into the existing structures.
 - Medical equipment is calculated at flat rate of approximately \$32 which is the same amount as used for Equipment for New Clinic Construction. It is included as a line item in the estimate of base costs.
- b. General Requirements Factor: General Requirements Factor is based on Anchorage costs without area adjustment. The factor is 1.20. It is multiplied by the Base Cost to get the project cost, exclusive of planning, architecture, engineering and administrative costs. This factor assumes projects include multiple deficiencies, which are then consolidated into single projects for economies of scale. The general requirements factor has not been adjusted for Indian Preference.
- c. Area Cost Factor: The Area Cost Factor used in the cost estimates for this facility is shown in Section VI of this report. The area cost factors are taken from a recent study completed for the Denali Commission for statewide healthcare facilities. The numbers are the result of a matrix of cost variables including such items as air travel, local hire costs, room and board, freight, fire protection equipment, foundation requirements, and heating equipment as well as contractor costs such as mobilization, demobilization, overhead, profit, bonds and insurance. These parameters were reconsidered for each village, following the site visit, and were modified, if necessary.
- d. Contingency for Design Unknowns (Estimating Contingency): The Design Unknowns Contingency is an estimator's contingency based on the schematic nature of the information provided, the lack of any real design, and the assumption that any project will encompass related work not specifically mentioned. The factor used is 1.15.
- e. Estimated Total Cost: This is the total estimated bid cost for work completed under Davis Bacon wage contracts, assuming construction before year-end 2002. This is the number that is entered in the front of the deficiency form. No inflation factor has been applied to this data.
- f. Project Cost Factors: Similar to new clinics, the following project factors have been included in Section VI of this report.
- Design Services is included at 10% to cover professional services including engineering and design.
 - Construction Contingency is included at 10% of the Base Costs to cover changes encountered during construction.
 - Construction Administration has been included at 8% of the Base Costs. This is for monitoring and administration of the construction contract.
- g. Estimated Total Project Cost of Remodel/Addition: This is the total estimated cost of the project including design services, the construction contract cost for work completed under Davis Bacon

wages and assuming construction before year-end 2002. No inflation factor has been applied to this data.

V. Summary of Existing Clinic Deficiencies

The attached sheets document the deficiencies; provide recommendations on how to make repairs or accommodate the needs and provide a cost estimate to accomplish the proposed modifications. The summary addresses individual deficiencies. If all deficiencies were to be addressed in a single construction project there would be cost efficiencies that are not reflected in this tabulation.

These sheets are reports from the Access Data Base of individual Deficiencies that are compiled on individual forms and attached for reference.

Refer to Section VI. New Clinic Analysis for a comparison of remodel/addition to new construction.

VI. New Clinic Analysis

The analysis of whether a new clinic is required is based on the Denali Commission standard of evaluation that "New Construction is viable if the cost of Repair/Renovation and Addition exceeds 75% of the cost of New Construction".

We have therefore determined the cost of a New Clinic Construction to meet the Alaska Rural Primary Care Facility (ARPCF) Space Guidelines for the size of village. We have also determined the cost to Repair/Renovation and Addition to the existing Clinic to meet the same ARPCF Space Guidelines.

A. The cost of a New Denali Commission 2000 SF Medium Clinic in Chuathbaluk is projected to be:

• Base Anchorage Construction Cost per sf.		\$183
• Project Cost Factor:	@ 45%	\$ 82
Medical Equipment	17%	
Construction Contingency	10%	
Design Fees	10%	
Construction Administration	8%	
• <u>Multiplier for Village</u>	<u>@ 1.28</u>	<u>\$ 74</u>
Adjusted Cost per SF		\$339
<hr/>		
Projected Cost of a New Clinic:	2000 sf. X \$339	= \$678,000

B. The cost of the Repair/Renovation and Additions for the existing Clinic are projected to be:

• Code & Condition Repairs/Renovations		
Cost from Deficiency Summary		\$285,674
• Remodel/Upgrade work (See Def. Code 01)		
100% of clinic 716 SF = 716 SF @ \$103/SF		\$ 73,958
• Additional Space Required by ARPCF – (See Def. Code 06)		
○ Base Anchorage Cost		\$226
Medical Equipment		\$ 32
Additional Costs –		\$ 98
General Requirements	20%	
Estimation Contingency	15%	
○ <u>Multiplier for Village</u>	<u>@1.28</u>	<u>\$ 98</u>
Adjusted Cost per SF		\$454
Total Addition Cost of 1284 SF @ \$454		\$583,491
• Project Cost Factor:	@ 28%	\$264,074
Construction Contingency	10%	
Construction Administration	8%	
Design Fees	10%	
<hr/>		
Total cost of remodel/addition		\$1,207,197

C. Comparison of Existing Clinic Renovation/Addition versus New Clinic:

Ratio of Renovation/Addition versus New Clinic is:

$$\text{\$1,207,197 / \$678,000} = 1.78 \text{ x cost of New Clinic}$$

Based on Denali Commission standard of evaluation; the remodel/addition costs are more than 75% of the cost of new construction. A new clinic is recommended for this community.

* Note: Village factors may have been adjusted for recent 2001 cost adjustments and may have changed from previously published data distributed to the villages.

D. Overall Project Cost Analysis:

The overall project cost analysis below incorporates land, multi-use, utility costs, and road access costs, and project management fees if any are associated with the project.

Item	Quantity	Units	Unit Cost	Area Adjustment Factor	Total Cost	Allowable under "Small" Clinic Process (yes/no)
Primary Care Clinic (Allowable)	2000	SF	\$265.00	1.28	\$678,000	yes
Clinic (Non-allowable portion)	0	SF	\$265.64	1.28	\$0	no
Land	15,000	SF	\$2.00	1	\$30,000	yes
Multi-Use Facility Design Cost	0	LS	\$0.00	1	\$0	yes
Multi-Use Facility Construction Cost	0	LS	\$0.00	1	\$0	no
Utility Extension/Improvements	1	LS	\$15,000	1	\$15,000	yes
Road access & parking lot improvements	1	LS	\$5,000	1	\$5,000	yes
Subtotal Project Cost					\$728,000	
Project Management Fees					<u>Unknown</u>	
Total Project Cost					Unknown	

VII. Conclusions and Recommendations

The existing Chuathbaluk Clinic has served the community well for many years. Base on current ANTHC and YKHC delivery model for health care to rural Alaska, the facility is not adequate in size or in condition to meet these needs. The existing structure could be adapted for many other less clinical and medically stringent uses without extensive remodeling.

After careful review it is the recommendation of the consultant team that a new Denali Commission 2000 SF Medium Clinic be considered for Chuathbaluk. The addition of approximately 1284 sf of clinic space required by the current ARPCF Program Space Guidelines and the major renovation and upgrading of the existing clinic space will cost 1.78 times the cost of a new clinic. This results in the recommendation of a new clinic for this village.

We reviewed the options with the local community leaders the consensus was that the New Medium Clinic would meet the current community needs and for years to come. In addition, they agreed that there is an ideal site that is available for construction of a new clinic. The site is adjacent to all existing utilities.

The community believes this is a good solution and will produce the best return for funds invested in a clinic that meets the needs of Chuathbaluk Community and is aggressively moving to assist in any way to accomplish this goal.

Appendix A: Specific Deficiencies Listings

The attached sheets represent the individual deficiencies identified for this project and the corrective action required to meet current codes and standards of construction. The deficiencies are further summarized in Section V. Summary of Existing Clinic Deficiencies.